REMARKS

Claim is supported as shown in the table below:

Claim	Support in the specification
1. A method comprising:	
(a) exposing a library of phage to a target surface of a material having specific geometrical patterns, wherein each phage of at least a portion of the library of phage displays a different exogenous peptide sequence on a surface of the phage,	Paragraph [0017], see "As shown in FIG. 1, the methods provided herein involve a binding assay that includes contacting a library of phage 10 (e.g., M13 filamentous phage), each displaying a different exogenous peptide sequence 20 on the surface of the bacteriophage 10, to a target surface 30, such as a graphite surface, with a specific geometrical pattern or geometrical shape such as an atomically flat structure 30."
(b) incubating the library of phage to produce bound phages that are bound to the target surface,	Paragraph [0017], see "After exposure of the phage 10 to the target surface 30 for an appropriate incubation period to allow binding … ."
(c) removing the bound phages,	Paragraph [0017], see "the specifically bound phage 10 are eluted or specifically removed."
(d) repeating steps (a) to (c) for a plurality of times,	Paragraph [0018], see "the process is repeated, for example for a total of 2-20 rounds, more specifically, for example for 2-10 rounds, and even more specifically, for example for 3-4 rounds. The screening of phage display libraries for surface-binding peptides through multiple rounds of screening, as disclosed herein, is referred to as biopanning."
(e) identifying one or more desired elements of the bound phages, wherein the one or more desired elements are present in every evolution round of repeating steps (a) to (c), and	Paragraph [0025], see "each round of evolution (or biopanning) of methods disclosed herein, is designed to fit the parameters of 'the common denominator principle'. In brief, the principle states that desired elements are present in every evolution step, although presented differently, sometimes by eliminating undesired elements."
(f) isolating and sequencing the one or more phages having the one or more desired elements.	Paragraph [0035], see "After biopanning, individual clones are isolated and sequenced … ."

New claim 37 is supported by paragraph [0017], which states that "the unbound phage 10 are washed away ... ." New claim 38 is supported by original claim 13. New claim 39 is supported by paragraph [0025] of the specification.

A novel feature of a method of this invention is described as follows. A library of phage (*e.g.*, M13 filamentous phage), each displaying a different exogenous peptide sequence on the surface of the phage (also called bacteriophage), is exposed and incubated to a target surface of a material, such as graphite, with specific geometrical patterns such as atomically flat structure, etc. (*i.e.*, a binding assay), as shown in Figure 1 of the specification. Unbound phage are washed away and the specifically bound phage are eluted; or specifically removed. Eluted phages are amplified, and the process is repeated typically for a total of 3-4 rounds (*i.e.*, biopanning). Each round of evolution (or panning) should be designed to fit the parameters of "the common denominator principle" described in the specification. In brief, the principle is that desired elements are present in every evolution step (although presented differently) whereas the undesired elements are eliminated through the design of the series of panning experiments. After 3-4 rounds, individual clones of the bound phages having the desired elements are isolated and sequenced to determine the sequence of the different exogenous peptide sequence on the surface of the phage.

Claim Rejection - 35 U.S.C. §112

Claims 1-7, 10-12, 15-19 and 32 and 36 were rejected under 35 USC 112, first and second paragraphs. These rejections are respectfully traversed and should be withdrawn in light of this Amendment.

Claim Rejection - 35 U.S.C. §103

Claims 1-7, 10-12, 15-19, and 32-36 were rejected as being obvious over Naik or Belcher or Lee in view of Puentes and allegedly Applicants' admission of the known prior art. This rejection is respectfully traversed.

All of the cited references fail to disclose some of the steps of claim 1, and in particular fail to disclose the limitation "identifying one or more desired elements of the bound phages, *wherein the one or more desired elements are present in every evolution round* of repeating steps (a) to (c)" *as a whole*. Thus, claim 1 should be allowable. All other dependent claims depend directly or indirectly from claim 1. Thus, all pending claims should be allowable.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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